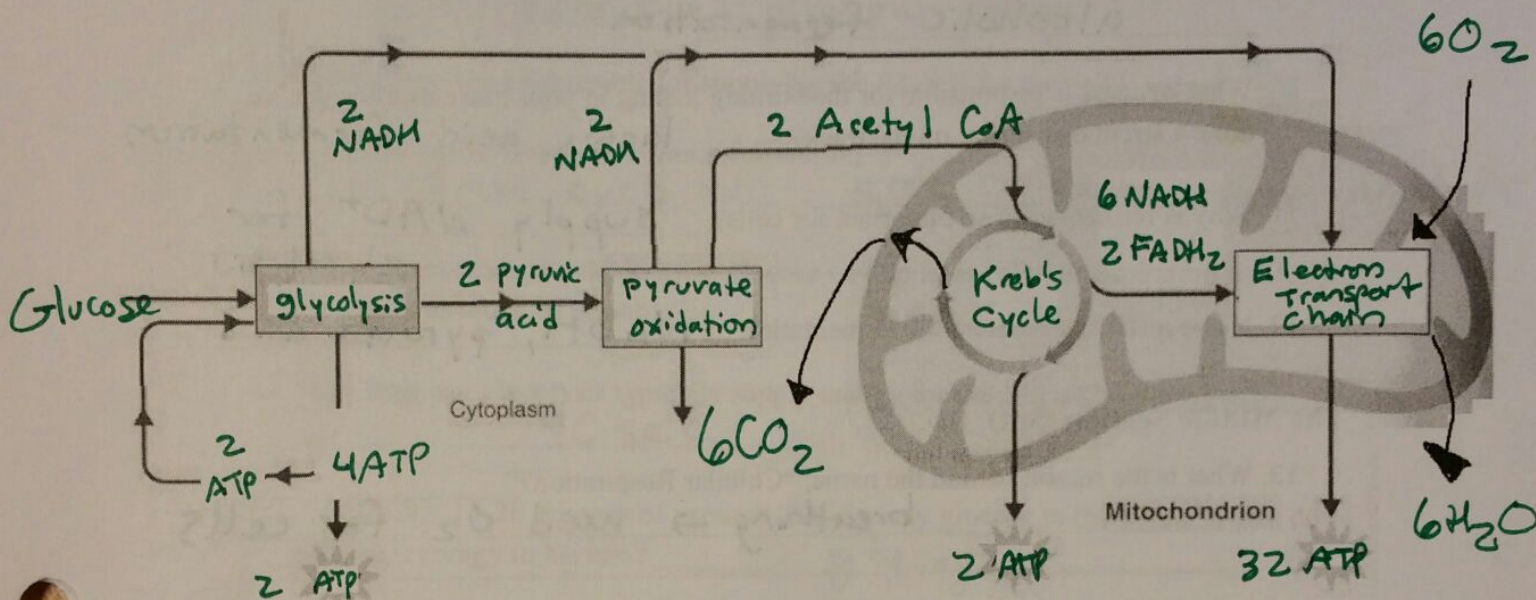




Chapter 9 Test - Breathing for Energy

(1pt): Outside of class, how much did you study? Be Honest! Close to... _____ minutes

Overview of Cell Respiration Diagram (20pt)



Cell Respiration Intro (12pt)

1. What is the main purpose of cellular respiration? ATP production
2. Write the full equation for cellular respiration (2pt)

$$C_6H_{12}O_6 + 6 O_2 \longrightarrow 6 H_2O + 6 CO_2 + \text{energy}$$
3. Cellular respiration is the process that breaks down glucose in the presence of oxygen in order to make ATP (energy carrier for the cell).
4. Which part of cellular respiration does not require oxygen? glycolysis
5. How many ATP can usually be harvested from one glucose molecule? 36(-38)
6. What molecule is glucose broken into? pyruvic acid
7. What are the 3 products of glycolysis? NADH, ATP, and pyruvic acid

Fermentation Notes (5pt)

8. Without fermentation, why would cells run out of ATP if they relied on glycolysis for ATP? run out of NAD^+
9. What process is responsible for bread rising? Use the specific term alcoholic fermentation
10. What **process** is responsible for the burning feeling in your muscles after you've done a strenuous sprint on the track? lactic acid fermentation
11. Why is fermentation so important for cells? supply NAD^+ for glycolysis
12. Name a starting reactant for fermentation $NADH$, pyruvic acid

The Middle Section (5pt)

13. What is the reason behind the name, "Cellular Respiration?" breathing \rightarrow need O_2 for cells
14. What is the waste product of the Krebs Cycle? CO_2
15. What is another name for the Krebs Cycle? citric acid cycle
16. What is the main purpose of the Krebs Cycle? add e^- to $NADH$ and $FADH_2$
17. After only **ONE** cycle of the Krebs cycle, how many ATP are made? 1 ATP

The Last Part (8pt)

18. What part of cellular respiration is responsible for the majority of the ATP made?

pyruvate acid ETC

19. What is the alternative name for the electron transport chain?

oxidative phosphorylation

20. What vitamin is responsible for supplying the $FADH_2$ for the cell? Vit B₂ riboflavin

(1pt) 21. Name 2 aerobic phases of cellular respiration
Krebs cycle and ETC (~~maybe~~ pyruvic oxidation)

22. Where does most of the energy in glucose end up after cellular respiration has fully harvested as much as possible? heat

23. How long can glycolysis typically supply energy for the cell without oxygen?

90 sec

24. For the first 15-20 minutes of exercise, besides any glucose in the blood, where do cells find energy to harvest? glycogen

25. What is the waste product of the electron transport chain? H₂O

EC. Where is the energy stored in glucose? chemical bonds

Connect the dots

11th 8 12th
A 44 A 44
M 48 M 43
H 51 H 50
2014
M: 42 M: 41
H: 49 H: 50